

Amendments to the Claims

Claims 1 and 10 are currently amended. Claims 2-9 and 11-22 are original. Consideration of all claims is respectfully requested.

Listing of Claims:

5 Claim 1 (Currently amended): An echo cancellation device for use in a full duplex communication system, wherein the full duplex communication system comprises a transmitter for transmitting a transmit signal and a receiver for receiving a receive signal, the echo cancellation device comprising:
10 a filter for outputting a filtering signal according to the transmit signal;
 an echo cancellation circuit electrically coupled to the filter for outputting an echo cancellation signal according to the filtering signal; and
 at least an echo cancellation resistor electrically coupled to the transmitter,
 the receiver, and the echo cancellation circuit;
 wherein the filter has a transfer function, and the transfer function is
15 corresponding to a parasitic capacitance.

Claim 2 (Original): The echo cancellation device of claim 1, wherein the echo cancellation signal corresponds to the transmit signal.

20 Claim 3 (Original): The echo cancellation device of claim 1 further comprising a digital-to-analog converter.

Claim 4 (Original): The echo cancellation device of claim 1, wherein the filter further comprises a digital low pass filter.

25 Claim 5 (Original): The echo cancellation device of claim 1, wherein the filter further comprises an analog low pass filter.

30 Claim 6 (Original): The echo cancellation device of claim 1 further comprising an echo residue detection circuit for outputting a control signal to control at least a

characteristic of the filter according to an echo residue received by the receiver.

Claim 7 (Original): The echo cancellation device of claim 6, wherein the filter is a finite impulse response (FIR) filter and the characteristic is at least a coefficient of the FIR filter.

Claim 8 (Original): The device of claim 6, wherein the filter is a infinite impulse response (IIR) filter and the characteristic is at least a coefficient of the IIR filter.

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Claim 9 (Original): The echo cancellation device of claim 6, wherein the filter is a resistor-capacitor (RC) network low pass filter and the characteristic is the resistance of the resistor or the capacitance of the capacitor.

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Claim 10 (Currently amended): An echo cancellation device for use in a full duplex communication system, wherein the full duplex communication system comprises a transmitter for transmitting a transmit signal and a receiver for receiving a receive signal, the echo cancellation device comprising:

a filter for outputting a filtering signal according to the transmit signal;

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an echo cancellation circuit electrically coupled to the filter for outputting an echo cancellation signal according to the filtering signal;

at least an echo cancellation resistor electrically coupled to the transmitter, the receiver, and the echo cancellation circuit; and

an echo residue detection circuit for outputting a control signal to adjust the filter according to an echo residue received by the receiver;

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wherein the filter has a transfer function, and the transfer function is corresponding to a parasitic capacitance.

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Claim 11 (Original): The echo cancellation device of claim 10, wherein the echo cancellation signal corresponds to the transmit signal.

Claim 12 (Original): The echo cancellation device of claim 10 further comprising a digital-to-analog converter.

5 Claim 13 (Original): The echo cancellation device of claim 10, wherein the filter further comprises a digital low pass filter.

Claim 14 (Original): The echo cancellation device of claim 13, wherein the digital low pass filter is a finite impulse response (FIR) filter and the FIR filter is adjusted
10 through adjusting at least a coefficient of the FIR filter.

Claim 15 (Original): The echo cancellation device of claim 13, wherein the digital low pass filter is a infinite impulse response (IIR) filter and the IIR filter is adjusted through adjusting at least a coefficient of the IIR filter.

15 Claim 16 (Original): The echo cancellation device of claim 10, wherein the filter further comprises a RC network filter.

Claim 17 (Original): The echo cancellation device of claim 16, wherein the RC
20 network filter further comprises a resistor.

Claim 18 (Original): The echo cancellation device of claim 17, wherein the resistor is implemented by a MOS transistor.

25 Claim 19 (Original): The echo cancellation device of claim 18, wherein the RC network filter is adjusted through adjusting a gate voltage applied to the gate electrode of the MOS transistor.

Claim 20 (Original): The echo cancellation device of claim 16, wherein the RC
30 network filter comprises a capacitor.

Claim 21 (Original): The echo cancellation device of claim 20, wherein the capacitor comprises a parasitic capacitor.

5 Claim 22 (Original): The echo cancellation device of claim 20, wherein the RC network filter is adjusted through adjusting the capacitance of the capacitor.